EUROPEAN UNIVERSITY INSTITUTE, FLORENCE

DEPARTMENT OF ECONOMICS

EUI WORKING PAPER No. 89/388

The Conduct of Monetary Policy: What Have we Learned From Recent Experience?

JEAN-CLAUDE CHOURAQUI*

* O.E.C.D. Paris

BADIA FIESOLANA, SAN DOMENICO (FI)

Printed in Italy in May 1989
European University Institute
Badia Fiesolana
– 50016 San Domenico (FI) –
Italy

THE CONDUCT OF MONETARY POLICY:

WHAT HAVE WE LEARNED FROM RECENT EXPERIENCE?*

C O N T E N T S

* Text of a lecture given in December 1988, when the author was visiting Professor at the European University Institute. For the main, this text draws from two recent OECD Working Papers quoted in references: "The Effects of Monetary Policy on the Real Sector: An Overview of Empirical Evidence for Selected OECD Economies" (by J.C. Chouraqui, M. Driscoll and M.O. Strauss-Kahn), and "The Formulation of Monetary Policy: A Reassessment in the Light of Recent Experience" (by P. Atkinson and J.C. Chouraqui). The views expressed therein reflect, however, the sole opinions of the author.

THE CONDUCT OF MONETARY POLICY: WHAT HAVE WE LEARNED FROM RECENT EXPERIENCE?

The present paper reviews how the role of monetary policy has been influenced by i) the important changes that have affected the economic and financial environment since the mid-1970s, and ii) by the developments in the formulation and implementation of policy during that period. As such, it constitutes an attempt to "take stock" of the current state of knowledge about the conduct of monetary policy on the basis of recent experience in major industrialised countries. Three sets of issues are successively examined:

- the changes in the policy-making environment and in the formulation of policy (Section A);
- the consequences of such changes on the transmission channels (B) and macro-economic effects of monetary policy (C);
- the choice of an appropriate intermediate target for monetary policy (D), and the extent to which the monetary authorities should commit themselves publicly to achieving a particular objective (E).

A. The changes in the macroeconomic and financial environment and their implications for policy making

Since the early 1970s OECD economies have been subjected to large supply shocks, to substantial changes in the rate of inflation, to slow economic growth, to an upsurge in unemployment, which has remained stubbornly high (particularly in Europe), and to increases in budget and external imbalances. Moreover, radical adjustments have been experienced in financial markets, brought about by the collapse of the Bretton Woods fixed exchange rate system, the growth of the international banking system and the related trends in financial market deregulation and innovation. One effect of this has been that domestic financial conditions have become more sensitive to monetary policy in other countries.

In such an environment, the optimistic Keynesian consensus of the 1960s and early 1970s did not survive; nor did the ways of formulating and conducting monetary policy practised up to the early 1970s. Accelerating inflation raised serious doubts about traditional methods of inflation control and created an opening for the sort of alternative analysis being offered by monetarists and later by new classical economists. The liberalisation of financial markets and the increasing use of market mechanisms encouraged the search for alternatives to direct controls on interest rates and the availability of credit; the money stock seemed the obvious choice. As a result, increased emphasis was put on domestic monetary aggregates, which led to the widespread adoption of target-oriented monetary policies after the first oil shock.

Reasons for this shift were generally pragmatic rather than a reflection of strong "monetarist" views within central banks (1). One consideration was the difficulty of interpreting movements in nominal interest rates as an indication of the policy stance in a context of accelerating

inflation. A second consideration was the need to adjust interest rates more flexibly; monetary targeting provided a framework permitting the authorities to make the appropriate adjustments more easily and earlier. Third, it was hoped that, by publicising the monetary authorities' intentions, announcements of monetary targets would have favourable effects on inflation expectations and would provide a yardstick for proving the commitment of central banks in controlling inflation. Finally, monetary targeting appeared justified, in a number of countries, by the evidence of a close relationship between the growth of monetary aggregates and nominal income over the medium term -- a factor which heavily influenced the choice of particular aggregates to be targeted.

As well as contributing, almost everywhere, to a gradual reduction of inflation to rates which prevailed in the 1960s, this approach has provided the required flexibility to cope with the external shocks of the 1970s and the emergence of large budget deficits. It has also allowed the central banks to raise interest rates until they were appropriately restrictive. However, problems have emerged in recent years which have considerably complicated the conduct of target orientated monetary policies (2). Interest rates and exchange rates have, at times, exhibited marked fluctuations which have been deemed to be excessive, forcing departures from announced monetary targets. Different measures of money have often moved in divergent ways, posing problems for the measurement of the stance of monetary policy and the choice of monetary aggregate to target. Moreover, the relationship between monetary aggregates and nominal income has become unstable in some countries and measures of income velocity have been subject to unexpected shifts.

A number of reasons have been advanced for the breakdown in the money-income relationship. One popular explanation has been that financial innovation and financial market deregulation distorted the monetary aggregates by increasing the range of substitutes for assets included in these aggregates (3). Another account of this development, known as "Goodhart's Law", is that formerly well-determined and stable relationships disintegrate when any attempt is made to exploit them for policy purposes. Viewed from this perspective the shift towards a quantitative objective for the money supply in the 1970s would have been responsible for the deterioration in money demand and velocity behaviour. An alternative explanation is that some of the determinants of money demand -- i.e. interest rates and inflation expectations -- may have changed sharply and unpredictably as a consequence of the successful disinflationary process. On this argument, as gains against inflation are consolidated, a stable relationship between money and income should reassert itself in the future.

But whatever the reasons for the instability that has characterised the money demand behaviour since the early 1980s, this has led the monetary authorities, in countries most seriously affected, to adopt a more pragmatic attitude. They have relied increasingly on judgement, taking into account a broad range of economic and financial indicators in implementing their policy. In so doing, they have felt less constrained to adhere rigidly to previously announced targets as circumstances have changed in unforeseen ways. This has been the case in most major OECD countries, notably in the United States, Germany the United Kingdom and Canada, where the authorities have at times missed targets, revised their targets in mid-year or suspended targets in part or altogether.

In the context of such greater flexibility in the conduct of monetary policy, the exchange rate has played an increasing role (4). This has reflected attempts to adopt a more coordinated and cooperative approach in policy making, as reflected in the Plaza Agreement of September 1985 and the Louvre Accord of February 1987. In some countries, the behaviour of the exchange rate has been used to provide the authorities with information about real and monetary developments. In Japan and Germany, in particular, decisions such as i) the choice of the monetary target range, ii) whether to aim for the top or the bottom of the range, and iii) whether to allow overshooting, have at times been influenced by exchange rate considerations. Even in the United States, where the exchange rate has had traditionally less of an influence on policy than elsewhere, foreign exchange market developments played a role in policy decisions made by monetary authorities in 1978-79, and again since 1985.

A number of other countries -- including France, Italy and Canada, and, among smaller economies, Belgium, the Netherlands and Sweden -- have implicitly or explicitly made the stabilisation of the exchange rate an important objective of their policy. This has largely reflected the exposure of these countries to the developments in large neighbouring economies. Operationally, such a policy has involved choosing a reference exchange rate, usually the currency of the major trading partner (effectively, the Deutschemark for the "EMS countries", the U.S. dollar for Canada) or a basket of currencies (in the case of Sweden). In practice, this has implied some combination of exchange market intervention and adjustment in monetary conditions to ensure that the exchange rate objective is met (see below).

B. The changes in the transmission mechanisms of monetary policy

The radical developments in the financial structures and exchange rate regime outlined above are widely perceived to have resulted in important changes in the channels through which monetary policy operates domestically. The reduced reliance on quantitative controls on lending has, in effect, increased the role of interest rates in the transmission process of monetary policy. The trend towards more deregulated financial markets has meant that monetary authorities have had to adopt indirect market-based methods to influence the costs of capital, mortgage finance and consumer credit. In so doing monetary authorities have come to rely more on open market operations and on "signalling" the direction in which they think market interest rates ought to go, for example by adjusting their discount rates and making public statements aimed directly at financial markets.

The link between short-term and long-term interest rates has also become more decoupled. The increasing use of open market operations by central banks and the development of markets for new financial instruments has lead to a term structure of interest rates which is now less subject to manipulation by the authorities in a number of countries. With the removal of administrative controls, the authorities action on long-term rates essentially depends on conditioning market participants views about future short-term rates, which in practice has meant trying to influence the climate of expectations about the stance of monetary policy and the implications of this for future inflation. This inevitably makes control of long-term interest rates a difficult task.

In countries where monetary aggregates are used as important indicators of monetary policy, and in which targets are announced for the growth rates of these aggregates, the control of money growth relies essentially on money market interest rates to achieve a desired change in money demand. The tendency for substantial shifts to occur in the portfolio behaviour of the private sector as a result of financial innovation has, however, made such control difficult. In particular the increasing propensity for components of monetary aggregates (especially broad ones) to bear market related interest rates has lowered interest elasticities in some countries, making it necessary to accept larger changes in short rates. Moreover, exclusive reliance on this way of influencing money growth implies that it is no longer possible to have separate objectives for the cost of borrowing and the level of liquidity, as was possible in the short-run under the former system of direct administrative controls on bank lending.

The ability of the monetary authorities to influence market interest rates, and thus money growth, has been further complicated by the emergence of large swings in exchange rates and the growing international integration of financial markets, which has been facilitated by the removal of controls on capital flows. The scope, especially in small countries, for sustaining lower interest rate levels than those prevailing in the rest of the world may be limited, especially if volatile exchange rate movements are unwanted. Also, reduced segmentation in asset markets means that it is sometimes difficult to exert any independent influence on exchange rates via sterilised intervention while pursuing targets for money growth. In these circumstances, independent monetary and exchange rate targets cannot be pursued simultaneously.

In addition to being a possible constraint on changes in domestic financial conditions, the exchange rate is a potentially important channel through which monetary policy influences the real sector. Exchange rate adjustments have important effects on the relative prices of domestic and foreign goods, so that, apart from influencing trade flows, they condition domestic costs and prices through their impact on import prices. Moreover, given the importance of foreign asset holdings in domestic portfolios in some countries, by directly affecting the price of foreign assets in terms of the domestic currency, exchange rate movements are a potential avenue for significant wealth effects.

C. The effects of monetary policy: a re-appraisal

In a recent study published in 1988 (5), the OECD Secretariat examined how the macroeconomic influence of monetary policy has changed since the mid-'seventies as a result of the developments described above. The point of departure for this research was a similar work undertaken a decade ago by the OECD which was published in 1975 under the title "The Role of Monetary Policy in Demand Management (6). In what follows, the conclusions of these two surveys are briefly summarised to illustrate how the state of understanding about the effects of monetary policy on real sector variables has developed over time.

1. The 1975 OECD study

That study, which was based on the experience in six major countries in

the 1960s and early 1970s, focused mainly on the effects of monetary policy on the components of real GDP and on aggregate nominal income. Typical of the consensus that prevailed at the time, the study saw the role of monetary policy in determining these macroeconomic variables as being substantial; monetary policy was seen not only as an important source of variation in aggregate demand but also as a useful tool, for short-run stabilisation purposes. The rationale for this view was stated concisely and clearly as follows (page 9):

> "In most countries the main source of cyclical instability has ... been observed in private investment and the demand for consumer durables. These expenditures are to a considerable extent financed by borrowing. A priori, it would appear that monetary policy has natural advantages as a tool of economic stabilisation; by varying interest rates and flows of credit at an early enough stage, the authorities could apparently achieve a smoothing of total demand desired".

The existing empirical evidence was interpreted as supporting this position; for example, it was said that:

> "... the short-run effects seem on the whole strong enough to leave an important role for discretionary policy ... monetary policy clearly retains an important short-run role."

Such statements reveal much about prevailing views on the effects and transmission mechanisms of monetary policy. Aggregate supply was taken to be demand determined and aggregate demand was, in turn, seen to depend, though not exclusively, on the stance of monetary policy. At any time the stance of policy itself was measured by the level of the nominal rate of interest or the degree of credit rationing -- channels through which the effects of monetary policy were supposed to be transmitted to the real sector. These effects were not viewed as being instantaneous, but the lags involved were estimated to be sufficiently short to provide the rationale for an effective discretionary stabilisation role for monetary policy.

This rather optimistic assessment of the scope for monetary policy was not, however, unqualified. A number of features of the late 1960s and early 1970s were identified in the 1975 study as limiting the relevance of the accepted conceptual framework. Among the most important of these was the increasing openness of economies, as reflected in the rapid development of international financial transactions, the pressure for less regulated and more competitive domestic financial markets, the acceleration of inflation and rising unemployment. The external position was also found to be of particular significance in a number of countries and the role of international capital flows was acknowledged to be gaining a growing importance despite attempts to neutralise their effects.

2. The 1988 OECD study

Like the 1975 survey, this study also deals essentially with what monetary policy does: that is how it influences the evolution of the price level, output and employment. The analysis takes place both at the conceptual level and in the light of the experience of the seven major OECD countries

(the United States, Japan, Germany, France, the United Kingdom, Italy and Canada) and three selected open economies (Australia, the Netherlands and Sweden). However, it is not confined to an examination of the effects of monetary policy on the domestic economy, as was the case with the 1975 study, but also considers the topical issue of international monetary interdependence and coordination.

What are the main conclusions of this new research? A first and important one is that measurement of the effects of monetary policy on the real sector of the economy is complicated by the lack of a universally accepted analytical framework. The evidence on models which combined market clearing and rational expectations is, on the whole, considered as less relevant in current circumstances than that based on models assuming slow price adjustment. Market clearing and rational expectations have indeed little or no empirical foundation, the weight of evidence providing more support for a macroeconomic framework in which prices adjust gradually. Furthermore, monetary shocks (defined as unanticipated changes in money growth) do not appear to be wholly responsible for the business cycle; real as opposed to monetary factors may have a more important role to play in generating business cycles.

However, the study recognises that if the structural reforms that many governments have implemented succeed in increasing the competitiveness and flexibility of markets, including the labour market, the market clearings framework might emerge as a closer approximation of reality than the currently more orthodox sticky-price approach, at least over the medium term. In fact, the introduction of such a framework into the debate on monetary policy has already had some important effects. In particular, it has focused attention on the evolution of the equilibrium in the economy and raised questions about how this might be influenced by monetary policy. It has also highlighted the potentially important role of expectations in the transmission process of monetary policy. Finally, it has mostly been within this framework that the damaging effects of instability in monetary policy on output and employment have been analysed. Therefore, although the sticky price model still remains the main tool of monetary policy analysis, there may be much to be gained from paying more attention to equilibrium properties of economies, the role of expectations and the effects of monetary policy instability -- areas not yet well understood.

Another conclusion of the 1988 study is that the evidence on the real sector effects of monetary policy, based mainly on large-scale models, which are in the spirit of the non-clearing markets framework, does not generally support the view that the price level or output can be closely controlled in the short run. The diversity in the size of the reported multipliers and the widely varying structure of the models, the parameters of which are often subject to large revisions, means that the short-run response of real sector variables to changes in financial conditions cannot be known with any degree of confidence. As regards output, the empirical evidence presented in the study tends to suggest that the effects of monetary policy are uncertain, both in terms of their initial impact and in terms of their duration. As for inflation, it appears that, among the countries considered, typically no strong and reliable short-run relationships exist between money growth and inflation. However, generally, those OECD countries with higher average rates of money growth tend to have higher average rates of inflation, reflecting a

medium- to long-term relationship. This suggests that sustained changes in the rate of money growth will have a lasting effect on the rate of inflation.

In addition to the diversity of empirical results on the macroeconomic effects of monetary policy reported in the study, there are other reasons why policymakers would be justified in feeling uncertain about the outcomes of their actions. Uppermost is the perception that the structure of the economy is subject to change: casual observation of time series reveals substantial shifts in such variables as savings ratios, money velocity, etc., over the last decade or so. The changing economic and financial environment is likely to have played an important role in this respect. Another consideration is that, in the present more deregulated financial market context, the relationships between macroeconomic variables are likely to depend, to an important extent, on market sentiment and expectations. This perception has been underlined by the overriding weight nov given by commentators and central banks to the importance of market "confidence" -- a factor which is seen as likely to swamp the traditional wealth effects of financial asset price changes. This means that the effects of adjustments in particular policy instruments may differ depending on whether market participants anticipate these adjustments or not, and whether they expect policy changes to be permanent or only temporary. Consequently, in assessing the effects of monetary policy, it is important to take into account the conditions -- notably the state of expectations -- in which it is being conducted and the effects that monetary policy might have on these conditions.

This suggests that attempts to use monetary policy for "fine tuning" economic activity runs the risk of having perverse effects on price and output developments. By creating uncertainty about the general direction of policy, such active short-run monetary policy may also destabilise private sector expectations. However, it does not mean that monetary authorities should not react at all to events. Monetary policy has to be aimed at sustaining the integrity of the financial system and of preventing "excessive volatility" in financial markets, which may have adverse effects on investor and consumer confidence. In this context it was clearly appropriate for central banks to provide liquidity to financial systems after the October 1987 stock market crash, as well as to intervene in foreign exchange markets to bring about an orderly adjustment in exchange rates from the autumn of 1985. The pursuit of such market stabilisation should, however, involve no more than temporary operations until policies can be put in place which deal with the fundamental cause of financial disturbances.

There is in fact nothing in the empirical evidence shown in the study that would suggest that, in order to preserve price stability, monetary authorities should abandon the medium-term approach to policy that has been practised in OECD countries in the 1980s. In particular, monetary policy should not be designed to take on the prime responsibility for correcting the cyclical instability of output and employment; it should rather be orientated towards the less ambitious objective of price stability over the medium term. Indeed, the provision of a stable nominal framework, on which the private sector can rely in forming expectations, is perhaps the best contribution that monetary policy can make to limiting costly adjustments in economic activity.

However, the task of conducting monetary policy in that way may not be trivial. As indicated above, the uncertainty that manifestly exists about the

measurement of the stance of policy means that monetary authorities currently need to be pragmatic and to monitor all potentially informative variables (including real sector variables). This pragmatism implies some flexibility both in pursuing intermediate monetary targets and in the setting of monetary instruments. If such short-run flexibility is to be effective it, nevertheless, remains crucial for monetary authorities to maintain public confidence in the credibility of their medium-term goal of price stability. Indeed, other things being equal, monetary policy effects are likely to be most predictable in an environment where the authorities are able to convince market participants that they are pursuing a credible medium-term strategy which they fully intend to stick to. How can this be achieved? This is the object of the section below.

D. How can monetary policy objectives be best accomplished?

Once a judgement has been made about the desirable evolution of inflation and nominal magnitudes more generally, it is necessary to find a way to conduct policy in order to achieve these objectives. Given that central banks cannot control spending or price formation directly, it is useful to have an intermediate target which offers a clear set of guideposts around which policy can be formulated over the medium term.

Two approaches, interest rates and real exchange rate targeting, are usually regarded as unsatisfactory for this purpose, as neither of these offers an anchor which monetary policy can stick to in an attempt to prevent unlimited cumulative divergences of the price level from a non-inflationary path (7). It is generally difficult for monetary authorities to identify what is the appropriate real or nominal interest rate level consistent with non-inflationary policies. Since interest rates are affected by fiscal policy, as well as by exogenous domestic and international developments, their movements are not easily predictable. Furthermore, attempts to keep interest rates at relatively low levels may entail an acceleration of monetary growth and eventually the loss of control over inflation. Thus, while interest rates may be useful as operating instruments to assist the achievement of intermediate targets in terms of money or credit aggregates or exchange rates, they cannot, themselves, offer a viable basis for policy formulation over the medium term. Similarly, there is no uniquely appropriate real exchange rate, and, even if there were, a policy of fixing it, as under a crawling peg arrangement, would imply automatic accommodation of domestic inflationary disturbances.

If monetary policy is to be successful, it must therefore be conducted in such a way that inflationary pressures will be resisted. Three approaches merit consideration in this respect (i) retention of monetary targets; (ii) adoption of nominal income targets; and (iii) stabilisation of the nominal exchange rate, i.e. a "hard currency" option.

1. Retaining the monetary targeting approach

Notwithstanding the difficulties experienced in a number of countries with monetary targeting, a retention of this approach, perhaps in a modified form, may still appear useful if it is possible to identify an appropriate money aggregate displaying a stable relationship, in the sense of being predictable, with nominal income over the medium term. A major difficulty is

that, as indicated above, financial innovations and deregulation have tended to "distort" the aggregates by changing the attractiveness and "moneyness" of previously existing assets, both relative to each other and to new assets as they become available (8). In principle, this problem can be addressed by periodically altering the definitions to include new types of financial assets in the appropriate aggregates and to adjust the statistical treatment of existing assets where their characteristics have changed. However, if the financial environment were changing too rapidly the frequency of changes in definition that would be required would be too high to make the effort useful.

An alternative way to deal with this problem, within the monetary targeting framework, would be to focus on divisia monetary aggregates. These are essentially index numbers which weight various monetary and quasi-monetary assets according to their degree of liquidity. The weights depend upon the shares of the assets in the total and upon their relative opportunity costs, which, in practice, are measured as the difference between the rates of return on these assets and the maximum available market return. Advocates of giving divisia monetary indices an important role in policy formulation argue that much of the variability of income velocity and instability in the demand for money -- a feature of relationships involving conventional monetary aggregates -- is eliminated when the divisia counterparts of these aggregates are used instead.

Some empirical evidence has been provided to support the view that divisia aggregates are superior to conventional ones (9), but a number of studies have come to the opposite conclusion (10), so that there is no clear empirical case in their favour in terms of the behaviour of money demand and velocity. Moreover, divisia monetary aggregates have a number of drawbacks (11). The reaction of markets to the framing of monetary targets in terms of a composite index is uncertain, and it might prove difficult to establish confidence in such an indicator, which has a much less obvious interpretation than conventional aggregates. In addition, control of divisia monetary aggregates would be subject to the same difficulties as those met in controlling conventional ones. Finally, the weights used in the divisia index are not independent of the quantities of the assets considered. If, for example, the monetary authorities attempted to reduce the growth of the divisia aggregate by restricting the supply of cash, the return on financial assets would rise. This would increase the weight given to cash in the index and alter the weights attached to the other assets. Therefore, control of a divisia index would require that the weights of the components be predictable.

A third possibility in the context of an aggregates-oriented approach would be to consider an aggregate in terms of "monetary base" i.e. consisting essentially of notes in circulation and bank reserves, which represent liabilities of the monetary authorities. From a purely technical viewpoint there may appear to be advantages in focusing on an aggregate that consists solely of central bank money, as the monetary authorities should normally be in a position to control their own balance sheets. Furthermore, at least some of the shifts in private portfolios and changes in financial behaviour, which arise as a consequence of innovation, would be unlikely to affect or distort an aggregate consisting entirely of base money. However, a policy of restricting the supply of central bank money, in the face of an increase in the public's demand for notes, would run the risk of draining the banking system of cash and causing pressures in the money market. This could

constrain the central bank to provide additional cash, in order to avoid too large fluctuations in short-term interest rates, but at the risk of undermining the effectiveness of the policy. To avoid these problems the central bank can operate indirectly with money market management primarily designed to restrain the growth of broader aggregates and/or spending intentions, and hence the demand for bank notes, in order to achieve the targets. (This was the case, for example, with the control of central bank money in Germany.) In so doing, however, monetary policies are subject to the same difficulties as those affecting broader aggregates.

2. Nominal income targeting

An alternative to controlling monetary aggregates that has raised increasing interest in recent years is nominal income targeting (12). The nominal income approach has several attractions. At the strategic level, it would make it more transparent to the public that while the authorities assume responsibility for the medium-term growth of nominal magnitudes, the split between prices and output depends on the behaviour of the private sector. It therefore offers a clear incentive to moderation in wage and price formation in order to make room for more real output. At the operational level, if money velocity is predictable, the nominal income target can be regarded as a velocity-adjusted monetary target. However, nominal income targeting is in some sense more general than monetary targeting as it allows the authorities to bring more information to bear on the conduct of monetary policy. In particular, it gives the authorities the possibility of responding to disturbances which influence money velocity in unforeseen ways by offsetting adjustments in policy. Moreover, it provides an overall framework encompassing instruments other than monetary policies, and remains applicable regardless of the short-run stability of the demand for money or the relative effectiveness of fiscal and monetary policies in influencing demand.

There are, however, some clear operational problems associated with the nominal income targeting approach. Perhaps the most serious is that nominal income is not a variable that the monetary authorities themselves are in a position to control, at least within a year, which is the normal projection period for monetary targets. If it showed signs of deviating from the target during the projection period, it would be very difficult to engineer a correction. As stressed above, the way the economy responds to monetary variables is not sufficiently well understood, and the lag structure of these responses is too uncertain, to allow any confidence that short-run adjustments would be successful.

Another difficulty is that the non-accommodating nature of a nominal income target implies that policy should respond to a disturbance affecting prices with a view toward causing a one-for-one offsetting movement in output. As the money-income relationship, even where it is stable, has some elasticity during the short run, a monetary target would not normally have this effect. The nominal income approach could be therefore comparatively destabilising with respect to output in the face of price disturbances, if attempts were made to implement it over periods as short as a year. Formulation of targets in terms of ranges would possibly ease this problem somewhat, as the authorities could, in principle, aim for the lower or upper ends of the ranges in this circumstance. However, this is also true of monetary targets, so the comparatively greater ability of the real economy to absorb price shocks under monetary targets remains.

Finally, the statistical base for nominal income targeting is not very satisfactory. While monetary data are available quickly and are rarely revised to a significant extent, apart from the seasonal adjustment, national accounts data are generally available only after a lag of several months and are subject to considerable subsequent revision.

3. Nominal exchange rate targeting

The nominal exchange rate offers an alternative intermediate target which is currently used by a number of countries, mainly smaller ones (13). Choosing this approach and adhering to it implies that the objectives concerning the desirable evolution of domestic inflation over longer periods are similar to those formulated abroad, since nominal magnitudes, and hence inflation, are forced to adjust to foreign ones. Operationally it involves choosing a reference exchange rate, usually the currency of a major trading partner or a basket of currencies, and some combination of exchange market intervention and adjustment of monetary conditions to influence capital flows to ensure that the target is met.

Generally, the achievement of a nominal exchange rate target is more straightforward than is often the case with monetary targets. A policy of intervention in the exchange market, if not sterilised, quickly affects short-term interest rates and leads, in principle, to equilibrating capital flows which allow the exchange rate to be maintained. Whatever the precise operating procedure, however, a policy of allowing rapid and substantial movements in money market rates should normally make nominal exchange rate targeting viable in a technical sense without necessitating unsustainable movements in official reserves.

There are a number of positive aspects of a policy formulated in terms of stabilising the nominal exchange rate:

i) If inflation is low in the reference currency country, pegging the exchange rate to it will contribute to restraining price increases.

ii) The exchange rate is an instantly observable market price whose meaning is clear to everyone; if policy is successful in stabilising it, its behaviour will not be subject to the problems of interpretation which often arise with monetary targets.

iii) If the rate of inflation has converged toward that achieved in the reference currency country, and the parity is appropriately chosen, a policy of nominal exchange rate stabilisation should limit the extent of real exchange rate misalignment and associated resource misallocation.

On the other hand, adhering to a nominal exchange rate target may have potential disadvantages. First, it ultimately implies abdication of control over domestic monetary conditions in favour of adjusting to foreign ones. To the extent, however, that it is difficult to find reliable relationships between domestic monetary variables and economic performance this may not be a problem, and if monetary policies in the country responsible for the reference currency are steady and non-inflationary it may even be a welcome feature. But it remains that targeting a nominal exchange rate raises issues concerning

the sovereignty of national policies and implies domestic monetary adjustment to both external shocks and policy changes (either inflationary or deflationary) taking place abroad. Second, because a fixed nominal exchange rate ultimately involves acceptance of the endogeneity of money and credit conditions, inflation control must rely heavily on the direct effects of international cost competitiveness and price arbitrage in tradeable goods markets. In those countries where international trade accounts for a relatively small share in activity, this can be a comparatively weak restraining force, while the loss of control of the domestic money supply would imply risks of both inappropriate overall levels of aggregate demand and accommodation of undesirable wage and price behaviour. Third, it is not possible for all countries simultaneously to rely on a fixed exchange rate to determine their monetary policies. At least one country, or a group of countries whose currencies play a dominant role, must have an important responsibility in determining the rate of inflation in the system as a whole.

E. How should monetary authorities' intentions be presented to the general public?

Another important aspect of policy formulation in the present context concerns the way monetary authorities can make their intentions known to the public and, in particular, whether they should commit themselves openly and explicitly to achieving specific goals. While the widespread decline in inflation in the 1980s, and gradual adjustment of market expectations in this regard, may have reduced the necessity to influence the public's behaviour in order to minimise output losses, monetary authorities cannot afford to neglect the effects of their actions on inflation expectations. Indeed, a worsening of expectations would threaten much of the progress that has been made in recent years toward establishing an environment conducive to non-inflationary growth. Moreover, changes in expectations can have important effects on financial markets, and, in particular, can exacerbate the problem of exchange rate instability.

The strongest attitude the monetary authorities can take vis-à-vis the public is to commit themselves to the achievement of an announced target. This would make clear what they intend to do and would provide an objective way to hold them accountable, which implies that the target to be achieved must in fact be something for which they are in a position to accept responsibility. In this regard a formal target for nominal income would pose serious problems. Since nominal income cannot be controlled over shorter periods such as a year, the monetary authorities will normally be reluctant to make commitments of this type. Furthermore, among the factors which influence the behaviour of nominal income in the short run, fiscal policy plays an important role. While, as noted above, one of the advantages of the nominal income approach is to encompass the effects of policies generally rather than those of monetary policy alone, it would blur the role of the monetary authorities. Central banks which have traditionally had a high degree of independence might find this threatened if they were forced to share responsibility with the government for a target which they cannot achieve on their own.

In contrast, targets expressed in terms of monetary aggregates or exchange rates offer clear statements of the contributions which central banks can make towards achieving a stable financial environment. These have the

advantages of (i) providing scope for adjusting interest rates in a timely way and (ii) allowing the authorities to resist political pressures for excessively easy policies. Furthermore, if the targets are regarded by the public as meaningful, in the sense that their achievement would have implications for inflation, and if the authorities' commitments to achieving them are credible, the effect on private sector expectations is likely to be favourable. As recent experience has shown, however, there are potential disadvantages associated with public commitments to achieve announced targets for money variables. First, they may limit the authorities' freedom in the short-run conduct of policy in undesirable ways. There is, of course, some scope for building in some flexibility by expressing targets in terms of ranges rather than points, but once the limits of the ranges are reached the problem is fundamentally the same. Second, a high priority would have to be attached to the achievement of the target, which implies confidence in the targeted intermediate variable. Where financial innovation is considered to be a problem, or where exchange rate movements would quickly lead to reconsideration of policy, central banks would probably avoid committing themselves strongly to monetary targets they might be forced to abandon.

A more flexible approach would be for the monetary authorities to announce targets but to make them conditional on certain other developments (14). Monetary targets subject to certain caveats about exchange rate behaviour or nominal income developments fall into this category. An important issue here is the severity and explicitness of the conditions. If these are constraining and clearly stated, conditional targets boil down to complicated versions of simple targets. They do, however, allow for some flexibility in the face of unforeseen developments. If the conditions are weak, or vaguely stated, conditional targets essentially commit the authorities to very little. This has the advantage of allowing them to exercise more flexibility in the conduct of policy, but at the cost of undermining any favourable effects on expectations which could be expected from a persistent achievement of announced targets.

A final possibility is for central banks to preserve their room for manoeuvre by not making any public statements about the future evolution of intermediate variables. This would essentially involve foregoing the advantages of influencing expectations that are associated with the clear and credible announcements of targets. However, where inflation has been reduced to rates that would be appropriate over the medium term and the central bank's credibility is well established, the costs of sacrificing such advantages may be minimal. On the other hand, they could be substantial if the decision not to announce targets is perceived as reflecting a central bank's bias toward laxity.

In practice it may prove difficult for monetary authorities to avoid giving some form of explicit public indication of their policy intentions in terms of an intermediate target. Historically this has been the norm: until the early 1970s the fixed exchange rate system placed a well-understood constraint on policies and the move toward monetary targeting followed soon after the shift to floating. To dispense for a long period with any public formulation of policy intentions in terms of intermediate targets would represent, therefore, an entirely new posture. While it may be convenient for a central bank to preserve its options, even if it in fact adheres fairly rigidly to a policy rule which is not formally disclosed to the public, there

are limits to this approach. Lack of information about the monetary authorities' intentions could be damaging if it caused uncertainty in the private sector and, consequently, resource misallocation. Furthermore, the government and the public will inevitably wish to be able to hold the central bank accountable for its actions, and to have benchmarks by which the success of these actions can be measured.

Thus, to conclude, by formulating their policies in terms of an intermediate target central banks can increase the likelihood that they will be held responsible for developments they are in a strong position to control. The alternative may be that, in the public's mind, they are held accountable for developments they are either poorly placed to influence or cannot responsibly do anything to change.

NOTES

1. The main motivations for the adoption of monetary targets are discussed in OECD (1979).

2. For a more detailed discussion of these problems, see Atkinson and Chouraqui (1986, 1987).

3. For a review of country experiences in this respect, see BIS (1984) and Annual Reports.

4. The use of the exchange rate in the conduct of monetary policy is examined in OECD (1985).

5. See Chouraqui, Driscoll and Strauss-Kahn (1988, 1989).

6. OECD (1975).

7. See, in this respect, OECD (1985) and Atkinson and Chouraqui (1985).

8. This has particularly been a problem in some countries where the assets included in monetary aggregates have been restricted to the liabilities of the monetary authorities and commercial banks, as with M1 and M2 in the United States before 1980, M2R in France and £M3 in the United Kingdom, making the significance of these aggregates vulnerable to disintermediation.

9. Support for Divisia aggregates using U.S. data is reported in Barnett (1980, 1982), Barnett and Spindt (1979) and Barnett, Offenbacher and Spindt (1981).

10. See, for example, the studies by Cockerline and Murray (1981) using Canadian data and Bailey, Driscoll et al. (1982) for the United Kingdom.

11. A more detailed discussion of the limitation of Divisia aggregates is contained in Goldfield (1982).

12. See, for example, Meade (1978) and Tobin (1983).

13. For more detailed discussion, see OECD (1985).

14. For an argument in favour of conditional targets, see Artis and Currie (1981).

REFERENCES

Artis, M., and D. Currie (1981), "Monetary Targets and the Exchange Rate: A Case for Conditional Targets", Oxford Economic Papers, Vol. 33, July (Supplement), pp. 176-200.

Atkinson, P. and J.C. Chouraqui (1985), "The Origins of High Real Interest Rates", OECD Economic Studies N° 5.

Atkinson, P. and J.C. Chouraqui (1986), "The Formulation of Monetary Policy: A reassessment in the Light of Recent Experience", OECD Department of Economics and Statistics Working Papers No. 32, March.

Atkinson, P. and J.C. Chouraqui (1987), "Implications of Financial Innovation and Exchange Rate Variability for the Conduct of Monetary Policy: Recent Experience", Journal of Foreign Exchange and International Finance, January.

Bailey, R.W., M.J. Driscoll, J.L. Ford and A.W. Mullineux (1982), "The Aggregation Error in Divisia Monetary Aggregates: Some Findings for the U.K.", Economic Letters, Vol. 10, pp. 123-128.

Bank for International Settlements (1984), Financial Innovation and Monetary Policy, Basle.

Barnett, W.A., (1980), "Economic Monetary Aggregates: An Application of Index Number and Aggregation Theory", Journal of Econometrics, Vol. 14, pp. 11-48.

Barnett, W.A., (1982), "The Optimal Level of Monetary Aggregation", Journal of Money, Credit and Banking, Vol. 15, No. 4, Part 2, pp.687-707.

Barnett, W.A., and P.A. Spindt (1979), "The Velocity Behaviour and Information Content of Divisia Monetary Aggregates", Economic Letters, Vol. 4, pp. 51-57.

Barnett, W.A., B.K. Offenbacher and P.A. Spindt (1981), "New Concepts of Aggregated Money", Journal of Finance, Vol. 36, pp. 497-505.

Chouraqui, J.C., M.J. Driscoll and M.O. Strauss-Kahn (1988), "The Effects of Monetary Policy on the Real Sector: An Overview of empirical Evidence for Selected OECD Economies", OECD Department of Economics and Statistics Working Papers No. 51, April.

Chouraqui, J.C., M.J. Driscoll and M.O. Strauss-Kahn (1989), "The Effects of Monetary Policy on the Real Sector: What do we know?", Banca Nazionale del Lavoro Quarterly Review, March.

Cockerline, J.P. and J.L. Murray, (1981), "A Comparison of Alternative Methods of Monetary Aggregation: Some Preliminary Evidence", Bank of Canada Technical Report 28.

Goldfeld, S.M., (1982), "Comment", Journal of Money, Credit and Banking, Vol. 15, No. 4, Part 2, pp. 716-720.

Meade, J., (1978), "The Meaning of Internal Balance", Economic Journal, Vol.88, September, pp.423-435.

OECD (1975), The Role of Monetary Policy in Demand Management: the Experience of Six Major Countries, OECD Monetary Studies Series, Paris.

OECD (1979), Monetary Targets and Inflation Control, Monetary Studies Series.

OECD (1985), Exchange Rate Management and the Conduct of Monetary Policy, Monetary Studies Series.

Tobin, J. (1983), "Monetary Policy: Rules, Targets and Shocks", Journal of Money, Credit and Banking, Vol.XV, No.4 (November), pp.506-518.

WORKING PAPERS ECONOMICS DEPARTMENT

86/206: Volker DEVILLE	Bibliography on The European Monetary System and the European Currency Unit.
86/212: Emil CLAASSEN Melvyn KRAUSS	Budget Deficits and the Exchange Rate
86/214: Alberto CHILOSI	The Right to Employment Principle and Self-Managed Market Socialism: A Historical Account and an Analytical Appraisal of some Old Ideas
86/218: Emil CLAASSEN	The Optimum Monetary Constitution: Monetary Integration and Monetary Stability
86/222: Edmund S. PHELPS	Economic Equilibrium and Other Economic Concepts: A "New Palgrave" Quartet
86/223: Giuliano FERRARI BRAVO	Economic Diplomacy. The Keynes-Cuno Affair
86/224: Jean-Michel GRANDMONT	Stabilizing Competitive Business Cycles
86/225: Donald A.R. GEORGE	Wage-earners' Investment Funds: theory, simulation and policy
86/227: Domenico Mario NUTI	Michal Kalecki's Contributions to the Theory and Practice of Socialist Planning
86/228: Domenico Mario NUTI	Codetermination, Profit-Sharing and Full Employment
86/229: Marcello DE CECCO	Currency, Coinage and the Gold Standard
86/230: Rosemarie FEITHEN	Determinants of Labour Migration in an Enlarged European Community
86/232: Saul ESTRIN Derek C. JONES	Are There Life Cycles in Labor-Managed Firms? Evidence for France
86/236: Will BARTLETT Milica UVALIC	Labour Managed Firms, Employee Participation and Profit Sharing - Theoretical Perspectives and European Experience.
86/240: Domenico Mario NUTI	Information, Expectations and Economic Planning
86/241: Donald D. HESTER	Time, Jurisdiction and Sovereign Risk

86/242: Marcello DE CECCO	Financial Innovations and Monetary Theory
86/243: Pierre DEHEZ Jacques DREZE	Competitive Equilibria with Increasing Returns
86/244: Jacques PECK Karl SHELL	Market Uncertainty: Correlated Equilibrium and Sunspot Equilibrium in Market Games
86/245: Domenico Mario NUTI	Profit-Sharing and Employment: Claims and Overclaims
86/246: Karol Attila SOOS	Informal Pressures, Mobilization, and Campaigns in the Management of Centrally Planned Economies
86/247: Tamas BAUER	Reforming or Perfecting the Economic Mechanism in Eastern Europe
86/257: Luigi MONTRUCCHIO	Lipschitz Continuous Policy Functions for Strongly Concave Optimization Problems
87/264: Pietro REICHLIN	Endogenous Fluctuations in a Two-Sector Overlapping Generations Economy
87/265: Bernard CORNET	The Second Welfare Theorem in Nonconvex Economies
87/267: Edmund PHELPS	Recent Studies of Speculative Markets in the Controversy over Rational Expectations
87/268: Pierre DEHEZ Jacques DREZE	Distributive Production Sets and Equilibria with Increasing Returns
87/269: Marcello CLARICH	The German Banking System: Legal Foundations and Recent Trends
87/270: Egbert DIERKER Wilhelm NEUEFEIND	Quantity Guided Price Setting
87/276: Paul MARER	Can Joint Ventures in Hungary Serve as a "Bridge" to the CMEA Market?
87/277: Felix FITZROY	Efficiency Wage Contracts, Unemployment, and Worksharing
87/279: Darrell DUFFIE Wayne SHAFER	Equilibrium and the Role of the Firm in Incomplete Markets
87/280: Martin SHUBIK	A Game Theoretic Approach to the Theory of Money and Financial Institutions

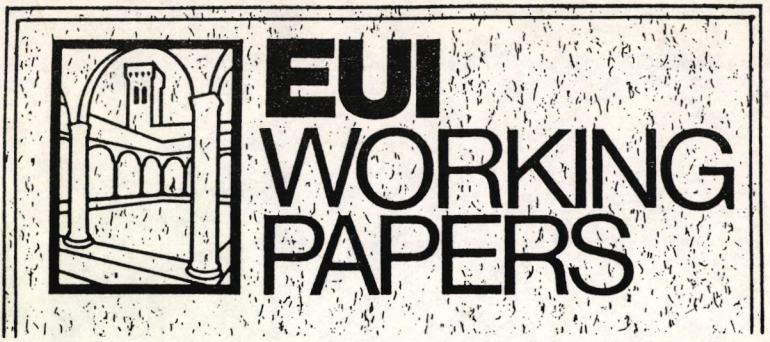
87/283:	Leslie T. OXLEY Donald A.R. GEORGE	Perfect Foresight, Non-Linearity and Hyperinflation
87/284:	Saul ESTRIN Derek C. JONES	The Determinants of Workers' Participation and Productivity in Producer Cooperatives
87/285:	Domenico Mario NUTI	Financial Innovation under Market Socialism
87/286:	Felix FITZROY	Unemployment and the Share Economy: A Sceptical Note
87/287:	Paul HARE	Supply Multipliers in a Centrally Planned Economy with a Private Sector
87/288:	Roberto TAMBORINI	The Stock Approach to the Exchange Rate: An Exposition and a Critical Appraisal
87/289:	Corrado BENASSI	Asymmetric Information and Financial Markets: from Financial Intermediation to Credit Rationing
87/296:	Gianna GIANNELLI	On Labour Market Theories
87/297:	Domenica TROPEANO	The Riddle of Foreign Exchanges: A Swedish-German Debate (1917-1919)
87/305:	G. VAN DER LAAN A.J.J. TALMAN	Computing Economic Equilibria by Variable Dimension Algorithms: State of the Art
87/306:	Paolo GARELLA	Adverse Selection and Intermediation
87/307:	Jean-Michel GRANDMONT	Local Bifurcations and Stationary Sunspots
87/308:	Birgit GRODAL Werner HILDENBRAND	Income Distributions and the Axiom of Revealed Preference
87/309:	Eric PEREE Alfred STEINHERR	Exchange Rate Uncertainty and Foreign Trade
87/312:	Pietro REICHLIN	Output-Inflation Cycles in an Economy with Staggered Wage Setting
87/319:	Peter RAPPOPORT Lucrezia REICHLIN	Segmented Trends and Nonstationary Time Series
87/320:	Douglas GALE	A Strategic Model of Labor Markets with Incomplete Information
87/321:	Gianna GIANNELLI	A Monopoly Union Model of the Italian Labour Market: 1970-1984

87/322: Keith PILBEAM	Sterilization and the Profitability of UK Intervention 1973-86
87/323: Alan KIRMAN	The Intrinsic Limits of Modern Economic Theory
87/324: Andreu MAS-COLELL	An Equivalence Theorem for a Bargaining Set
88/329: Dalia MARIN	Assessing Structural Change: the Case of Austria
88/330: Milica UVALIC	"Shareholding" in Yugoslav Theory and Practice
88/331: David CANNING	Convergence to Equilibrium in a Sequence of Games with Learning
88/332: Dalia MARIN	Trade and Scale Economies. A causality test for the US, Japan, Germany and the UK.
88/333: Keith PILBEAM	Fixed versus Floating Exchange Rates Revisited.
88/335: Felix FITZROY Kornelius KRAFT	Piece Rates with Endogenous Monitoring: Some theory and evidence
88/337: Domenico Mario NUTI	On Traditional Cooperatives and James Meade's Labour-Capital Discriminating Partnerships
88/338: Pietro REICHLIN Paolo SICONOLFI	Government Debt and Equity Capital in an Economy with Credit Rationing
88/339: Alfred STEINHERR	The EMS with the ECU at Centerstage: a proposal for reform of the European rate system
88/340: Frederick VAN DER PLOEG	Monetary and Fiscal Policy in Inter-dependent Economies with Capital Accumulation, Death and Population Growth
88/341: David CANNING	Optimal Monetary Policy in an Economy without a Forward Market for Labour
88/344: Joerg MAYER	Intervention Mechanisms and Symmetry in the EMS
88/345: Keith PILBEAM	Exchange Rate Management and the Risk Premium

88/348: Milica UVALIC	The Investment Behaviour of the Labour-Managed Firm: an econometric analysis
88/351: Alan P. KIRMAN	On Ants and Markets
88/352: Gianna GIANNELLI	Labour Demand, Pricing and Investment Decisions in Italy: An econometric Analysis
88/353: Niall O'HIGGINS	The Progressivity of Government Taxes and Benefits in Ireland: a comparison of two measures of redistributive impact
88/356: Mary McCARTHY Lucrezia REICHLIN	Do Women Cause Unemployment? Evidence from Eight O.E.C.D. Countries
88/357: Richard M. GOODWIN	Chaotic Economic Dynamics
88/358: Fernando PACHECO Eric PEREE Francisco S. TORRES	Duopoly under Demand Uncertainty
88/360: Domenico Mario NUTI	Economic Relations between the European Community and CMEA
88/361: Domenico Mario NUTI	Remonetisation and Capital Markets in the Reform of Centrally Planned Economies
88/362: Domenico Mario NUTI	The New Soviet Cooperatives: Advances and Limitations
88/368: Stephen MARTIN	Joint Ventures and Market Performance in Oligopoly
89/370: B. BENSAID Robert GARY-BOBO S. SIDERBUSCH	The Strategic Aspects of Profit-Sharing in the Industry
89/374: Francisco S. TORRES	Small Countries and Exogenous Policy Shocks
89/375: Renzo DAVIDDI	Rouble Convertibility: a Realistic Target?
89/377: Elettra AGLIARDI	On the Robustness of Contestability Theory
89/378: Stephen MARTIN	The Welfare Consequences of Transaction Costs in Financial Markets
89/381: Susan SENIOR NELLO	Recent Developments in Relations between the EC and Eastern Europe

89/382:	Jean GABSZEWICZ Paolo GARELLA Charles NOLLET	Spatial Price Competition with Uninformed Buyers
89/383:	Benedetto GUI	Beneficiary and Dominant Roles in Organizations: the Case of Nonprofits
89/384:	Agustín MARAVALL Daniel PEÑA	Missing Observations, Additive Outliers and Inverse Autocorrelation Function
89/385:	Stephen MARTIN	Product Differentiation and Market Performance in Oligopoly
89/386:	Stephen MARTIN	The Welfare Consequences of Transaction Costs in Financial Markets
89/387:	Stephen MARTIN	Modeling Oligopolistic Interaction
89/388:	Jean-Claude CHOURAQUI	The Conduct of Monetary Policy: What have we learned from recent experience?

Spare copies of these Working Papers can be obtained from the Econaomics Department secretariat.



EUI Working Papers are published and distributed by the European University Institute, Florence.

Copies can be obtained free of charge - depending on the availability of stocks - from:

The Publications Officer
European University Institute
Badia Fiesolana
I - 50016 San Domenico di Fiesole (FI)
Italy

Please use order form overleaf

PUBLICATIONS OF THE EUROPEAN UNIVERSITY INSTITUTE

To The Publications Officer
European University Institute
Badia Fiesolana
I - 50016 San Domenico di Fiesole (FI)
Italy

From Name .....
Address .....
.....
.....
.....
.....

Please send me the following EUI Working Paper(s):

No. .....
Author, title: .....
.....
.....
.....
.....

Date .....

Signature
.....

PUBLICATIONS OF THE EUROPEAN UNIVERSITY INSTITUTE NOVEMBER 1988

88/329:	Dalia MARIN	Assessing Structural Change: The Case of Austria *
88/330:	Milica UVALIC	"Shareholding" in Yugoslav Theory and Practice
88/331:	David CANNING	Convergence to Equilibrium in a Sequence of Games with Learning
88/332:	Dalia MARIN	Trade and Scale Economies. A causality test for the U.S., Japan, Germany and the UK
88/333:	Keith PILBEAM	Fixed versus Floating Exchange Rates Revisited
88/334:	Hans Ulrich Jessurun d'OLIVEIRA	Die EWG und die Versalzung des Rheins
88/335:	Felix Fitzroy and Kornelius Kraft	Piece Rates with Endogenous Monitoring Some Theory and Evidence
88/336:	Norbert LORENZ	Die Übertragung von Hoheitsrechten auf die Europäischen Gemeinschaften - verfassungsrechtliche Chancen und Grenzen einer europäischen Integration erläutert am Beispiel der Bundesrepublik Deutschland, Frankreichs und Italiens -
88/337:	Domenico Mario NUTI	On Traditional Cooperatives and James Meade's Labour-Capital Discriminating Partnerships
88/338:	Pietro REICHLIN and Paolo SICONOLFI	Government Debt and Equity Capital in an Economy with Credit Rationing
88/339:	Alfred STEINHERR	The EMS with the ECU at Centerstage: A proposal for reform of the European Exchange rate system
88/340:	Frederick VAN DER PLOEG	Monetary and Fiscal Policy in Interdependent Economies with Capital Accumulation, Death and Population Growth
88/341:	David CANNING	Optimal Monetary Policy in an Economy without a Forward Market for Labour
88/342:	Gunther TEUBNER	"And God Laughed..." Indeterminacy, Self-Reference and Paradox in Law
88/343:	Jean BLONDEL	Ministerial Careers in Western European Governments

* :Working Paper out of print

PUBLICATIONS OF THE EUROPEAN UNIVERSITY INSTITUTE NOVEMBER 1988

88/344:	Joerg MAYER	Intervention Mechanisms and Symmetry in the EMS
88/345:	Keith PILBEAM	Exchange Rate Management and the Risk Premium
88/346:	Efisio ESPA	The Structure and Methodology of International Debt Statistics
88/347:	Francesc MORATA and and Jaume VERNET	Las Asambleas Regionales en Italia y España: Organizacion Institucional y Reglas de Funcionamiento
88/348:	Milica UVALIC	The Investment Behaviour of the Labour-Managed Firm: An Econometric Analysis
88/349:	Massimo PANEBIANCO	Inter-Regional Co-Operation in the North-South Dialogue Latin America and the European Community
88/350:	Gregorio ROBLES	La Cour de Justice des CE et les Principes Généraux du droit
88/351:	Alan KIRMAN	On Ants and Markets
88/352:	Gianna GIANNELLI	Labour Demand, Pricing and Investment Decisions in Italy: An Econometric Analysis
88/353:	Niall O'HIGGINS	The Progressivity of Government Taxes and Benefits in Ireland: A Comparison of Two Measures of Redistributive Impact
88/354:	Christian JOERGES	Amerikanische und deutsche Traditionen der soziologischen Jurisprudenz und der Rechtskritik
88/355:	Summary of Conference, debates and abstracts of selected interventions	The Future Financing of the EC Budget: EPU Conference 16-17 October 1987
88/356:	Mary MCCARTHY and Lucrezia REICHLIN	Do Women Cause Unemployment? Evidence From Eight O.E.C.D. Countries
88/357:	Richard M. GOODWIN	Chaotic Economic Dynamics
88/358:	Fernando PACHECO Eric PEERE and Francisco S. TORRES	Duopoly Under Demand Uncertainty
88/359:	Jaakko NOUSIAINEN	Substance and Style of Cabinet Decision-Making

* :Working Paper out of print

PUBLICATIONS OF THE EUROPEAN UNIVERSITY INSTITUTE APRIL 1989

88/360:	Domenico Mario NUTI	Economic Relations between the European Community and CMEA
88/361:	Domenico Mario NUTI	Remonetisation and Capital Markets in the Reform of Centrally Planned Economies
88/362:	Domenico Mario NUTI	The New Soviet Cooperatives: Advances and Limitations
88/363:	Reiner GRUNDMANN	Marx and the Domination of Nature Alienation, Technology and Communism
88/364:	Tony PROSSER	The Privatisation of Public Enterprises in France and Great Britain The State, Constitutions and Public Policy
88/365:	Silke BRAMMER	Die Kompetenzen der EG im Bereich Binnenmarkt nach der Einheitlichen Europäischen Akte
88/366:	Goesta ESPING-ANDERSEN	The Three Political Economies of the Welfare State
88/367:	Goesta ESPING-ANDERSEN Paul FARSUND and Jon Eivind KOLBERG	Decommodification and Work Absence in the Welfare State
88/368:	Stephen MARTIN	Joint Ventures and Market Performance in Oligopoly
88/369:	Giuseppe RAO	The Italian Broadcasting System: Legal and Political Aspects
89/370:	B. BENSAID/ S. FEDERBUSCH/ R.J. GARY BOBO	The Strategic Aspects of Profit Sharing in the Industry
89/371:	Klaus-Dieter STADLER	Die Europäische Zusammenarbeit in der Generalversammlung der Vereinten Nationen zu Beginn der Achtziger Jahre
89/372:	Jean Philiippe Robé	Countervailing Duties, State Protectionism and the Challenge of the Uruguay Round
89/373:	Giovanni FEDERICO/ Antonio TENA	On the Accuracy of Historical International Foreign Trade Statistics Morgenstern Revisited
89/374:	Francisco TORRES	Small Countries and Exogenous Policy Shocks

* :Working Paper out of print

PUBLICATIONS OF THE EUROPEAN UNIVERSITY INSTITUTE JUNE 1989

89/375: Renzo DAVIDDI	Rouble Convertibility: A Realistic Target?
89/376: Jean STAROBINSKI	Benjamin Constant: La fonction de l'eloquence
89/377: Elettra AGLIARDI	On the Robustness of Contestability Theory
89/378: Stephen MARTIN	The Welfare Consequences of Transaction Costs in Financial Markets
89/379: Augusto De Benedetti	L'equilibrio difficile. Linee di politica industriale e sviluppo dell'impresa elettrica nell'Italia meridionale: la Società Meridionale di Elettricità nel periodo di transizione, 1925-1937
89/380: Christine KOZICZINSKI	Mehr "Macht" der Kommission? Die legislativen Kompetenzen der Kommission bei Untätigkeit des Rates.
89/381: Susan Senior NELLO	Recent Developments in Relations Between the EC and Eastern Europe
89/382: J. GABSZEWICZ, P. GARELLA and Charles NOLLET	Spatial Price Competition With Uninformed Buyers
89/383: Benedetto GUI	Beneficiary and Dominant Roles in Organizations: The Case of Nonprofits
89/384: Agustin MARAVALL and Daniel PEÑA	Missing Observations, Additive Outliers and Inverse Autocorrelation Function
89/385: Stephen MARTIN	Product Differentiation and Market Performance in Oligopoly
89/386: Dalia MARIN	Is the Export-Led Growth Hypothesis Valid for Industrialized Countries?
89/387: Stephen MARTIN	Modeling Oligopolistic Interaction
89/388: Jean Claude CHOURAQUI	The Conduct of Monetary Policy: What has we Learned From Recent Experience?
89/389: Léonce BEKEMANS	Economics in Culture vs. Culture in Economics
89/390: Corrado BENASSI	Imperfect Information and Financial Markets: A General Equilibrium Analysis

* :Working Paper out of print